

Amendment and Response

Applicant: Ian Colloff et al.

Serial No.: 09/977,604

Filed: October 21, 2001

Docket No.: 10011311-1/A310.257.101

Title: METHOD AND APPARATUS FOR INPUT/OUTPUT PORT MIRRORING FOR NETWORKING SYSTEM BRING-UP AND DEBUG

IN THE SPECIFICATION

Please insert the following paragraph beginning on page 3, line [0007], with the following rewritten paragraph:

[0007] For example, for a networking connection that corresponds to a communication between the agent associated with port 103₁ and the agent associated with port 103_n, the switching core 101 transfers packets received at port 103₁ (as part of inbound flow 104₁) associated with this communication to port 103_n. Thus, a packet that is received at port 103₁ and destined for the agent associated with port 103_n will be transmitted to the switching core 101 from port 103₁ along core interface 102₁. Subsequently, the switching core 101 will direct the packet from the core 101 to port 103_n along core interface 102_n. As a result, the packets will be part of outbound flow 104_n105_n and the connection between the pair of agents will be established.

Please insert the following paragraph beginning on page 13, line [0037], with the following rewritten paragraph:

[0037] **Figure 4** shows an embodiment of a switch core 401 that may be used for the switch core 201 of **Figure 2**. As discussed, the switch core 401 has an "A" channel 410₁402 (for normal switch activity and "logical" mirroring) and a "B" channel 410₂407 (for "raw" mirroring). In the approach of **Figure 4**, the switch core 401 is designed a cross bar switch. Cross bar switches may be viewed as being designed such that each output node 408₁ through 408_n can be individually coupled to any of the input nodes. Circuit connections 420 demonstrates this relationship for output node 408₁ for Channel A (each of output nodes 408₂ through 408_n may be envisioned as having similar circuit collection). Circuit connections 421 demonstrates this relationship for output node 408_n for Channel B (each of output nodes 408₁ through 408_{n-1} may be envisioned as having similar circuit collection).

Please insert the following paragraph beginning on page 13, line [0038], with the following rewritten paragraph:

[0038] The substantive switching activity of the channel A portion of the switch core 410₁401 (during its normal operational mode) may be designed to work in cooperation with a

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scheduling circuit that "decides" the particular connection to be established for each switch core output node. For example, as just one approach, the scheduling circuit may be designed to "setup" a series of connections for each output node that allows an input traffic unit to be passed over each established connection.

Please insert the following paragraph beginning on page 15, line [0043], with the following rewritten paragraph:

[0043] An embodiment of this might have a logical unit on the input side 510 that provides a plurality of channels to the switching core 502, in which case it will be difficult to mirror the logical flow to one mirror port. A serial "logical" input stream in 510 can be supplied to the "B" channel through 513 via 551 to achieve this mirror function. Similarly the "logical" output stream could be supplied to 513 and hence a mirror port via 552. Thus in such an embodiment it is possible to mirror "logical" flows via the "B" channel. The switch at 514 enables "logical" and "raw" flows to be split (configured when setting up the mirror port), so that the "raw" retiming can be handled at 512 prior to its exit from the port through 515 to 505. Whereas the "logical" flows go through 511, which adds the framing and control packets required to support the protocol, then through ~~515~~515 to the link 505.

Please insert the following paragraph beginning on page 16, line [0044], with the following rewritten paragraph:

[0044] Note that the logical flows using the core's A channel from 502 can be "multicast" to a mirror port 203_x , as can logical flows to ~~508~~507, which are "multicast" as appropriate from the other ports 203_1 to 203_n (which does not include the port to be mirrored or the mirror port) to a mirror port 203_x .

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Please insert the following paragraph beginning on page 3, after paragraph [0008]:

SUMMARY

One aspect of the present invention provides a networking system. The networking system includes a plurality of ports, a switch core and a plurality of port mirrors. The plurality of ports are adapted to send and receive data. The switch core includes a first channel configured to receive a logical input flow from each of the plurality of input ports, and a second channel configured to receive a raw input flow from each of the plurality of input ports. The plurality of port mirrors is selectable from the plurality of ports. Each of the plurality of port mirrors is configured to produce a duplicate copy of at least one of the logical input flow and the raw input flow available at a selected port.